



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/753,606	01/08/2004	Isaac S. Frazier	D/A3466 XERZ 2 00669	6333
27885	7590	08/01/2005	EXAMINER	
FAY, SHARPE, FAGAN, MINNICH & MCKEE, LLP 1100 SUPERIOR AVENUE, SEVENTH FLOOR CLEVELAND, OH 44114			MORRISON, THOMAS A	
			ART UNIT	PAPER NUMBER

3653

DATE MAILED: 08/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/753,606

Applicant(s)

FRAZIER ET AL.

Examiner

Thomas A. Morrison

Art Unit

3653

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7, 10, 13 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 8, 9, 11, 12 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 06/20/2005.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 13 and 17-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 13, there is insufficient structure recited in this claim to understand how the at least one flexible bearing has both an adjustable diameter and a constant diameter, depending on the position of the pick module assembly. While the claimed adjustable and constant diameters are described in the specification, it is not clear from the language of claim 13, what structure allows the at least one flexible bearing to have an adjustable diameter when the pick module assembly is in a semi-engaged position and a constant diameter when the pick module assembly is in an operative position. A recitation of the structure that allows this function to occur is needed (e.g., the structure shown in Figs. 8A-C).

With regard to claim 17 and its dependent claims 18-19, it is unclear what is meant by the recited "first radial axis" and the recited "second radial axis". In other words, the recited radial axes do not clearly recite a specific structure of the pick module assembly. More clarification is needed in the claim language of claim 17 to understand the specific structure (e.g., more clearly describe the structure of the pick module

assembly shown in Figs. 8A-C). Is the radial axis along the length of an axle of the pick module assembly? The first and second radial axes are radial relative to what element(s)?

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-4, 16 and 17, as best understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Watson et al (reference cited in the prior Office Action of 1/13/05). In particular, the Watson et al. patent discloses all of the limitations of claims 1-4, 16 and 17.

Regarding independent claim 1, Figures 1-7 of Watson et al. show a sheet feeder and separator assembly (including 2 and 40) for separating and sequentially feeding individual print media sheets from a stack thereof (column 2, lines 50-55), comprising:

- a frame (including 40) having at least one bearing recess (62 and/or 64),
- a print media tray (column 1, lines 10-14, column 2, lines 50-55 and Fig. 1) carried by the frame,
- a separator (13) connected to the print media tray (column 2, lines 50-55 and Fig. 1);
- a pick module assembly (2) removably connected to the frame (including 40) adjacent the print media tray (column 3, lines 37-50, column 2, lines 50-55 and Figs. 1

and 6), the pick module assembly (2) including a pick roller (4) adjacent the separator (13) to form a nip (column 2, lines 50-55 and Fig. 1) and at least one flexible bearing (34) removably received in the at least one bearing recess (62 or 64) and removably connecting the pick module assembly (2) to the frame (including 40).

Regarding dependent claim 2, Watson et al. discloses that the at least one flexible bearing (34) has a variable first dimension along a first axis (i.e., finger portions on either side of the U-shaped cutout portion in 34 have a height that expands (vertical height in Fig. 4)) for allowing removal of the at least one flexible bearing (34) from the at least one bearing recess (near 62 or 64) when the first dimension is aligned with an opening width of the at least one bearing recess (near 62 or 64) and has a substantially constant second dimension (e.g., width between the U-shaped cutout portion in 34 and a side of 18 that is located opposite to an opening of the U-shaped cutout portion) along a second axis angularly offset (e.g., approximately perpendicular) relative to the first axis for preventing removal of the at least one flexible bearing (34) from the at least one bearing recess (near 62 or 64) when the second dimension is aligned with the opening width. The structure of the at least one flexible bearing (34) allows such flexible bearing (34) to be snapped in place onto a lug (62 or 64) in the bearing recess (near 62 or 64). This snapping arrangement prevents removal of the at least one bearing (34) from the at least one bearing recess (near 62 or 64).

Regarding dependent claim 3, Fig. 4 of Watson et al. shows that the second axis (e.g., the axis of the width between the U-shaped cutout portion in 34 and a side of 18 that is located opposite to an opening of the U-shaped cutout portion) is approximately

normal to the first axis (i.e., the axis of the height of the fingers on opposite sides of the U-shaped cutout portion).

Regarding dependent claim 4, Watson et al discloses that the at least one flexible bearing (34) fixes the position of the pick module assembly (2) along the second axis relative to the frame (40) when the second dimension is aligned with the opening width. In particular, the at least one flexible bearing (34) snaps the pick module assembly (2) in place.

Regarding dependent claim 16, Watson et al. shows that the separator (13) is a separator pad.

Regarding claim 17, Figs. 1-6 show a customer replaceable unit (2) for a sheet feeder for feeding cut sheets from a stack of sheets, comprising:

- a frame (18);

- a first roller (4) rotatably mounted to the frame (18),

- a second roller (6) rotatably mounted to the frame (18) adjacent the first roller (4) and connected to the first roller (40) for rotation therewith so that rotation of the first roller (4) causes simultaneous rotation of the second roller (6), and

- a pair of flexible connecting members (32 and 34) connected to the frame (18) for selectively and removably connecting the frame (18) to an associated sheet feeder frame (40), the pair of flexible connecting members (32 and 34) each flexible along a first radial axis thereof for connection to the associated sheet feeder frame (40) and relatively inflexible along a second radial axis thereof for locking to the associated sheet feeder frame (40) when connected thereto. More specifically, Fig. 4 clarifies that there

is a U-shaped cutout portion in each of the flexible connecting members (32 and 34). Finger portions on opposite sides of the U-shaped cutout portion are flexible so as to expand outward when the opening of the U-shaped cutout portion is aligned with a lug (62 or 64) on a feeder frame (40) and such connecting member (32 or 34) is snapped onto such lug. Each finger portion is flexible in a direction radially outward from the U-shaped cutout portion along a first radial axis (i.e., the first radial axis is vertical in Fig. 4). On the other hand, each flexible connector (32 or 34) also has a portion that is substantially rigid along a second radial axis that extends radially outward from the U-shaped cutout portion in a direction opposite to the opening of the U-shaped cutout portion (i.e., the second radial axis extends from left to right in Fig. 4). This arrangement locks each flexible connecting member to one of the lugs (62 or 64) on the sheet feeder frame. As such, Watson et al. still meets the limitations of claim 17.

3. Claims 1-4, 7 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Westcott et al. (reference cited in the prior Office Action of 1/13/05). In particular, the Westcott et al. patent discloses all of the limitations of claims 1-4, 7 and 15.

Regarding claim 1, Figures 1-6 show a sheet feeder and separator assembly (including 12 and 14) for separating and sequentially feeding individual print media sheets from a stack thereof, comprising:

a frame (including 12, 10 and 34) having at least one bearing recess (near 34 in Fig. 6),

a print media tray (120) carried by the frame,

a separator (26) connected to the print media tray (120);

a pick module assembly (14) removably connected to the frame adjacent the print media tray (120) , the pick module assembly (14) including a pick roller (62) adjacent the separator (26) to form a nip (Fig. 1) and at least one flexible bearing (including 72) removably received in the at least one bearing recess (near 34 in Fig. 6) and removably connecting the pick module assembly (14) to the frame.

Regarding dependent claim 2, Figs. 3 and 6 show that the at least one flexible bearing (including 72) has a variable first dimension along a first axis (i.e., along the axis of 74 and/or along the axis of 78) for allowing removal of the at least one flexible bearing (including 72) from the at least one bearing recess (near 34 in Fig. 6) when the first dimension is aligned with an opening width of the at least one bearing recess (near 34 in Fig. 6) and has a substantially constant second dimension (e.g., diameter of tooth structure on 72) along a second axis angularly offset (i.e., approximately perpendicular) relative to the first axis for preventing removal of the at least one flexible bearing (including 72) from the at least one bearing recess (near 34 in Fig. 6) when the second dimension is aligned with the opening width. The structure of teeth prevents removal of the at least one bearing (including 72) from the at least one bearing recess (near 34 in Fig. 6).

Regarding dependent claim 3, Figs. 2 and 6 show that the second axis (e.g., along the diameter of the tooth structure on 72) is approximately normal to the first axis (i.e., the axis of 74 and/or the axis of 78 in Fig. 6).



Art Unit: 3653

Regarding dependent claim 4, Watson et al discloses that the at least one flexible bearing (including 72) fixes the position of the pick module assembly (14) along the second axis relative to the frame when the second dimension is aligned with the opening width. In particular, the at least one flexible bearing (including 72) holds the pick module assembly (14) in place.

Regarding claim 7, Fig. 6 shows a pick frame (including 88 and 80); and a pick roller shaft (24) rotatably mounted to the pick frame (including 88 and 80) by the at least one flexible bearing (including 72) and having the pick roller (62) connected to the pick roller shaft, the pick roller (62) rotatably fixed to the pick roller shaft (24) when the pick roller shaft (24) is rotated in a first direction and the pick roller (62) is rotatable relative to the pick roller shaft (24) via 66 when the pick roller shaft (24) is rotated in a second direction.

Regarding claim 15, Figs. 2 and 4 show that the separator (26) is a retard roller assembly removably connected to a print media tray (120) for replacement thereof, the retard roller assembly including a retard roller (100) and a bias mechanism (106) urging the retard roller (100) into the pick roller (62).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Watson et al. in view of Amano (references cited in the prior Office Action of 1/13/05). In particular, Watson et al. in view of Amano meets all of the limitations of claim 20.

Regarding independent claim 20, Amano discloses a sheet feeder-separator assembly, comprising:

- a frame (including 3),
- a retard roller (49) rotatably connected to the frame (including 3),
- a replaceable pick assembly (including 8) having a pick roller (8) rotatably connected adjacent the retard roller (49) to form a sheet retard nip for retarding sheets other than a select sheet being fed between the retard roller and the pick roller from a stack of sheets, and

connectors, but Amano does not specifically disclose connecting members as claimed.

Watson et al. discloses that it is well known to provide a replaceable pick assembly (2) in a sheet feeder-separator assembly (including 40) with connectors (32 and 34) on one of the frame and the replaceable pick assembly (2) for removably engaging recesses (near 64 and near 62) in the other of a frame (40) and the replaceable pick assembly, the connecting members (32 and 34) flexible in a first direction (spread apart as shown in Fig. 4) allowing removal from the recesses (near 64 and near 62) when the first direction is parallel to opening widths of the recesses (near 64 and near 62) and rigid in a second direction (e.g., the direction extending from the U-shaped cutout portion of 34 toward a side of 18 opposite to an opening of the U-shaped

Art Unit: 3653

cutout portion) approximately normal to the first direction preventing removal from the recesses (near 64 and near 62) when the second direction is parallel to the opening widths of the recesses (near 64 and near 62). The rigid portion that is opposite to the fingers on opposite sides of the U-shaped cutout portion provides support for snapping the fingers in place in the recesses (near 64 and near 62) to prevent removal. As such this combination of references meets all of the limitations of claim 20.

5. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Westcott et al., as applied to claim 7 above, and further in view of Inoue et al. (references cited in the prior Office Action of 1/13/05). Westcott et al. discloses all of the limitations of dependent claim 10, except for frictional roller treads as claimed.

Inoue et al. disclose that it is well known to provide rollers (e.g., roller 44) with frictional roller treads (46, 55 and 56) nonrotatably mounted thereto to better feed sheets. It would have been obvious to one of ordinary skill in the art at the time of the invention, to provide the pick roller and the nudger roller of Westcott et al. with friction roller treads in order to better feed sheets, as shown by Inoue et al.

***Allowable Subject Matter***

6. Claims 5-6, 8-9, 11-12 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Response to Arguments***

7. With regard to the rejection of claim 13 under 35 U.S.C. 112, second paragraph, it is unclear from the language recited in this claim, as to what structure is claimed. This rejection is explained in greater detail above.

With regard to the rejection of independent claim 1, this Office Action explains how the flexible bearing (34) of Watson et al. removably connects the roller assembly to a frame. Accordingly, Watson et al. meets all of the limitations of claim 1. The rejection of this claim and its dependent claims are explained in greater detail above.

The rejection of independent claim 17 is also outlined above. In particular, this Office Action explains how Fig. 4 of Watson et al. shows the first and second radial axes as now set forth in claim 17.

With regard to the rejection of claim 20, this Office Action explains how Watson et al. in view of Amano discloses connecting members that are rigid and prevent removal, as claimed.

***Conclusion***

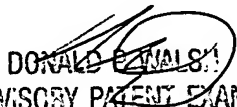
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas A. Morrison whose telephone number is (571) 272-7221. The examiner can normally be reached on M-F, 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Walsh can be reached on (571) 272-6944. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

  
DONALD E. WALSH  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 3600